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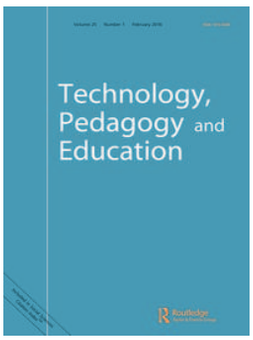

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Students' use of personal technologies in the university classroom: analysing the perceptions of the digital generation

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Faculty frequently express concerns about students' personal use of information and communication technologies in today's university classrooms. As a requirement of a graduate research methodology course in a university in Ontario, Canada, the authors conducted qualitative research to gain an in-depth understanding of students' perceptions of this issue. Their findings reveal students' complex considerations about the acceptability of technology use. Their analysis of the broader contexts of students' use reveals that despite a technological revolution, university teaching practices have remained largely the same, resulting in 'cultural lag' within the classroom. While faculty are technically 'in charge', students wield power through course evaluations, surveillance technologies and Internet postings. Neoliberalism and the corporatisation of the university have engendered an 'entrepreneurial student' customer who sees education as a means to a career. Understanding students' perceptions and their technological, social and political contexts offers insights into the tensions within today's classrooms.

Keywords: technology; classroom; students; university; qualitative

Introduction

In casual discussions about their teaching experiences, today's university faculty frequently express concerns about students' use of personal technologies in the classroom. A common complaint is that students are distracted during lectures and seminars, lured by the immediacy of social networking and other Internet sites that are disruptive to both teaching and learning. Students use laptops not only for note-taking, but also for accessing information, communicating with others, gaming and movie watching. In addition, mobile phones including iPhones, Blackberries and other 'smart phones' that have instant access to the Internet, text-messaging, games and other applications are an everyday part of the technological repertoire that students import into classrooms. From the perspective of many faculty, the centrality of technology in students' lives and its intrusion into the classroom environment are problems that are growing in intensity.

Our research project was developed to fulfil a requirement of a Masters graduate course in research methodology at a university in Ontario, Canada. The course acquainted six graduate students with all aspects of qualitative field research, with the explicit goal of publishing the findings in an academic journal. As insider participants

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in university culture, the professor and the graduate students were intimately familiar with how students use technologies during classes and faculty's general response to such uses. The general research questions that were less understood were: Why, and how, do students use their personal technology devices during class, and what do they feel is appropriate in this regard? Do students think that their use of personal technologies impacts other students and/or professors, and if so, how?

Literature review

The literature on the use of technology in the classroom has focused on: the relationship between students' use of technology in the classroom and the impact upon learning; faculty and/or students' perceptions of faculty-driven use of technology in the classroom; faculty and/or students' perceptions of student-driven use of technology in the classroom.

Students' use and impact on learning

Most of the research that has investigated how student-driven use of technology in the classroom impacts learning usually concludes that such use distracts students and negatively affects their learning (Fried, 2008; Hanson, Drumheller, Mallard, & Schlegel, 2010; Kraushaar & Novak, 2010; Rosen, Lim, Carrier, & Cheever, 2011; Wood et al., 2012). Even though this literature emphasises the 'distractive' outcomes, some studies have suggested that the impact varies according to types of technology used (e.g., see Harman & Sato, 2011), how they are used (e.g., see Hembrooke & Gay, 2003), the frequency of use (e.g., see Rosen et al., 2011) and the purpose for the use and the contexts in which use takes place (Junco & Cotten, 2012). For example, studies have shown that using Facebook and texting while doing schoolwork both inside and outside of class negatively impact academic outcomes (e.g., see Junco & Cotten, 2012; Mayer & Moreno, 2003; Rosen et al., 2011). Studies have also shown that talking on the phone, using instant messaging, emailing and searching for information online are not related to academic outcomes (e.g., see Wood et al., 2012). As such, the commonly held notion that multitasking is automatically detrimental to learning requires systematic research and critical analysis.

Perceptions of faculty-driven use

The literature on faculty-driven use of technology in the classroom focuses on the integration of technology into curriculum planning and delivery. These initiatives, while faculty driven, are touted as student centred, and are said to reflect an appreciation for the new skills and practices of millennial students, who have 'grown up digital' and who are intimately familiar with rapid technological change (Hanson, et al., 2010; Shepherd & Mullane, 2010; Tapscott, 2009). Educators who appreciate a student-centred approach to teaching advocate new ways of teaching that embrace, rather than resist, these qualities in students (e.g. Prensky, 2012; Shepherd & Mullane, 2010) – for example, moving away from an emphasis on traditional lecture-style teaching toward the incorporation of technologies to 'increase course-related interaction' (Thomas & Orthober, 2011, p. 55). These initiatives have included: emailing (Young, Kelsey, & Lancaster, 2011); cell phones (e.g. Engel & Green, 2011; Smith-Stoner, 2012); laptops (Kay & Lauricella, 2010; Kraushaar &

Novak, 2010); Facebook (Estus, 2010; Roblyer, McDaniel, Webb, Herman, & Witty, 2010); text messaging, micro-blogging and tweeting (see Kassens-Noor, 2012, pp. 10–11). Most of these studies agree that these innovations have had a positive impact on teaching and learning, and legitimise professional development for faculty to support this trend (e.g. Brubaker, 2006; Davies & Sinclair, 2013; Donne, 2012; Fuegen, 2012; Garcia-Sanchez & Rojas-Lizana, 2012; Jones, Scanlon, & Clough, 2013; McClanahan, Williams, Kennedy, & Tate, 2012; Ottenbreit-Leftwich, Glazewski, Newby, & Ertmer, 2010; Poyas, 2013; Scornavacca, Huff, & Marshall, 2009; Timmerman & Kruepke, 2006). Some studies have attended to specific contexts that impact the success of teaching with technology, including: the connection to theories of learning (e.g. Krauskopf, Zahn, & Hesse, 2012; Starkey, 2011); the ideological and institutional contexts; and teachers' beliefs and attitudes (see Agyei & Voogt, 2011; Celik & Yesilyurt, 2013; Clarke, 2013; Ertmer, Ottenbreif-Leftwich, Sadik, Sendurur, & Sendurur, 2012; Kreijins, Vermeulen, Kirschner, Buuren, & Van Acker, 2013; Liu, 2011; Owen & Demb, 2004).

Perceptions of student-driven use

Studies on faculty perceptions of the impact of student-driven use of wireless technology in higher education classrooms have been based primarily on quantitative methodologies, including surveys and questionnaires (e.g. Brubaker, 2006; Fried, 2008; Harman & Sato, 2011; Junco, Heiberger, & Loken, 2011; Kay & Lauricella, 2010; Tindell & Bohlander, 2012) and experiments (Hembrooke & Gay, 2003; Rosen et al., 2011; Wurst, Smarkola, & Gaffney, 2008). When studies have incorporated qualitative methodologies, these appear as open-ended questions at the end of a predominately quantitative survey (e.g. Brill & Galloway, 2007; Brubaker, 2006; Kay & Lauricella, 2010). Overwhelmingly, studies show that faculty believe student-driven use of wireless technologies negatively impacts student participation, the classroom atmosphere and faculty teaching, and is distracting to fellow students and disrespectful to the professor (Baker, Lusk, & Neuhauser, 2012; Berschback, 2010; Brubaker, 2006; Burns & Lohenry, 2010; Campbell, 2006; Gilroy, 2004; Kuo, 2005). Gilroy went as far as to say that the use of cell phones in classrooms is a 'technological terror' (2004, p. 56) to education. Bennett and Maton noted that one of the outcomes of this situation has been an 'academic moral panic' (2010, p. 328). The predominant theme in this literature is that, from the perspective of faculty, student-driven use of technology deviates from expectations and, in some cases, explicit ground rules, with respect to classroom conduct. Students are often portrayed as devious in their attempts to use their technology, as Berschback noted: 'Some students are so talented they can send text messages with their cell phones securely hidden in their pockets!' (2010, p. 17). In response, some articles advocate strict policies to deal with offenders (e.g. Berschback, 2010; Hanson et al., 2010), including confiscation, or answering of the phone by faculty; a notation of absent for the student for that class; obliging the student to bring snacks for the rest of the class for the following class (Tindell & Bohlander, 2012, p. 6); the blocking of wireless Internet from classrooms (Brubaker, 2006, p. 4); and the 'right to ban' students' use of technology in the classroom (Baker et al., 2012, p. 288). Some researchers have explored variables that impact student-driven use of technology during class (e.g., see Finn & Ledbetter, 2013, on teacher power, technology policies and teacher credibility; Wei & Wang, 2010, on teacher immediacy and frequency of

cell phone usage; Baker et al., 2012, on gender and (under)graduate student status). Studies on student perceptions of student-driven use reveal that most often students do not see a problem with their use of personal technologies during class (Brubaker, 2006; Kay & Lauricella, 2010; Tindell & Bohlander, 2012). The debate surrounding the pros and cons of students' use of personal technologies in higher education environments has often been framed in terms of digital natives versus digital immigrants (e.g., see Margaryan, Littlejohn, & Vojt, 2011; Smith, 2012). Bennett and Maton's critical theorising around this simplistic dichotomy challenges the commonly held notion that '[t]he biggest single problem facing education today is that our Digital Immigrant instructors, who speak an outdated language (that of the pre-digital age), are struggling to teach a population that speaks an entirely new language' (2010, p. 322). Bennett and Maton called for a more complex analysis that underscores 'the variegated and shifting nature of the many contexts in which young people engage during the course of their daily lives' (p. 326). Lohnes and Kinzer (2007) also challenged stereotypic assumptions of student-driven use that are promoted in the literature and the media, and encouraged a more complex analysis of the individual orientations of students and the contexts of their technology use.

Our research explores these complexities. Specifically, we address a gap in the literature by foregrounding students' voices through an in-depth, qualitative exploration of *their perceptions* of what they are doing in this regard, and why. Further, we extend current theorising by providing a sociological analysis of the broader contexts that shape these practices and perceptions.

Theorising

Our project was informed by Charmaz's conceptualisation of constructivist grounded theorising, which prioritises the phenomena of study to examine 'how, when and to what extent … the studied experience [is] embedded in larger and, often hidden, positions, networks, situations, and relationships' (2006, p. 130). Our prior experiences as professor and students shaped our initial approaches to the project, and we used sensitising concepts (Blumer, 1954) to guide the development of tools for the data collection. An in-depth examination of our student participants' perspectives and practices was the basis upon which we engaged in theorising to explain our data. We were committed to ongoing, reflexive analyses of our presuppositions about our own, and our students' use of technology, and the structural and interactional contexts in which we were interpreting data. Our group discussions, journal assignments and research assignments provided venues for our exploration and interpretation of implicit statements made by students (Charmaz, 2006, p. 146). Through this process we identified categories that had the greatest conceptual 'carrying capacity' (Clarke, 2005, as noted in Charmaz, 2006, p. 139) and then we analysed these with respect to their connections to other theoretical concepts. This approach resulted in theoretical insights at the micro, meso and macro levels; that is, the personal, interpersonal and institutional levels of analysis.

Methodology

A collaborative, pedagogical, project

This research project was a central requirement of a graduate-level, qualitative research methodology course in the Department of Criminology that involved the

collaboration of the professor and six Masters students. The initial stages of the project (conceptualisation of the research questions, literature review and university ethics approval) were accomplished by Dr Langan during the summer prior to the course, owing to time constraints. As the project evolved, Dr Langan and the students engaged more collaboratively in all phases of the research, using non-probability sampling to recruit both faculty and students for the purposes of participant observation, qualitative interviews and focus groups.

The setting

Our participants' university campus is 'small', with a population of approximately 3500 students, in a city of approximately 100,000 people. The typical lecture hall on campus accommodates 150 students, and second- and third-year students are often in classes of 50–60 students, while fourth-year classes typically involve no more than 30 students. Most, if not all, students on campus have their own cell phones, and Wi-Fi access is available throughout the campus. Faculty are usually assigned to teach courses that they have requested. A liberal arts education is the defining feature of this campus, and only a very few courses have labs or tutorials. While the faculty range in age, the mean age is estimated to be in the mid-30s – many, if not most, of the faculty are in their first professorial appointment following the completion of their PhD.

Faculty

While the primary focus of our data collection was on the student population, the graduate students (three females and three males) interviewed six faculty first as a way to inform the development of the questions that were being prepared for students. In particular, we were interested in faculty's experiences with students' use of personal technologies in the classroom and their descriptions of episodes that they had experienced in this regard. The faculty interviews represented both a data-gathering *and* a pedagogical exercise in that pairs of graduate students interviewed faculty members with the rest of the graduate class observing and subsequently providing critical feedback.

Students

Convenience, or 'haphazard' sampling (Neuman, 2007, p. 142) was used to recruit students for qualitative interviews and focus groups. Because our study was exploratory, preliminary and bounded by the parameters of the course, haphazard sampling provided a legitimate way to select participants that were readily available (Neuman, 2011, p. 242). We developed, and obtained ethics approval, for a recruitment poster that was disseminated to the university population through: postings in 'recruitment booths' in three high-traffic public spaces on campus; social media; Facebook; texting; the student newspaper; and emails to campus clubs. As students volunteered to participate in the project, we used snowball sampling to connect with potential, additional, participants; as such, caution must be exercised in generalising the findings of our study to the larger population of students on this campus, or other university campuses. Graduate students took shifts at the recruitment booths and initiated conversations with students as they walked by, offering free snacks and drinks in

exchange for participation. Most of the interviews and focus groups took place immediately following recruitment, and all were conducted and audio-recorded by the graduate students, either in areas adjacent to the booths, or in nearby university residence lounges. Most interviews ended up lasting no more than 10 minutes, while focus groups typically lasted about 20 minutes. Our approach to data collection was in keeping with field research, and the principle of naturalism – we 'captured events as they occur[red] in authentic reality' (Neuman, 2011, p. 425).

A total of 24 male students and 29 female students participated in the research. Just over half of these students were enrolled in either criminology (33%) or concurrent education (19%), while the rest were enrolled mainly in contemporary studies, leadership, or law and society. The majority of students (40%) were in their first year of study, while the remaining students were evenly distributed across the second, third and fourth years (20% in each). A consent form was reviewed, signed and distributed to each student participant.

Data collection

The interviews and focus groups were semi-structured, and guided by the same themes which attended to: the types of technology used in class by students; how and why they used these technologies; their perceptions of other students' use; their perceptions of the professors' thoughts on their use; their perceptions of their rights within the classroom; and their motivations for attending university. As Teaching Assistants (TAs), the graduate students also collected participant observation data during their attendance at the undergraduate classes when granted permission by the professors. The TAs attended classes at the regularly scheduled times, sat toward the back of the classroom and made field notes during, and following, classes that ranged from 60–175 students. The undergraduate students were made aware of the nature of the research project, the TAs' role in the project and the authorisation for participant observation. Students were assured that no identifying information would be included in the TAs' field notes, and that descriptions of the use of technology during class would ensure anonymity.

Data analysis

The graduate student researchers transcribed each of their own field notes, interviews and focus groups, and samples from these transcriptions were used to develop the coding system. Dr Langan independently, and the graduate students working in pairs, produced a set of open and axial nodes in NVIVO and presented these, and the rationale behind them, to the class. Based on these presentations, and the discussions that followed, the class collaboratively finalised a coding scheme to ensure inter-coder reliability. Each graduate student: used the scheme to code the data that they had collected; used analytic memoing to record emergent analytic insights; assigned pseudonyms to their participants; and prepared a research report of their findings that was submitted to Dr Langan and presented to the class. Dr Langan compiled all of the independent submissions into a final comprehensive report which was distributed to the graduate students and which formed the basis for additional discussions during which the analyses of the data were further refined. The final articulation of the analyses for publication purposes was primarily the responsibility of the first and second authors.

Findings

Our participant observations and interviews with faculty and students pointed to the prevalence of students' access to personal technologies. For faculty, students' use of these personal technological devices during classes was, for the most part, unwelcome, and in some cases, explicitly in violation of the course policy. Faculty found particularly troublesome situations in which a student's use distracted others in the class, and/or the faculty member him/herself. The predominant theme in the interviews was that students' personal use of technology in the classroom was inappropriate and antithetical to the educational goals of their classes.

While students saw their practices as part of their normal experience 'in today's society', they also saw the negative implications of their use. As such, they espoused complex, and often contradictory, considerations about whether their use of technology during class was, or was not, acceptable. Their discussions centred on: types of technology use; its distractive qualities; and respect for professors. Within each of these thematic areas there emerged a 'hierarchy of acceptability' that varied according to the interplay between these various factors.

Types of technology use

There was a general consensus that some uses of technology were more legitimate than others. Most students described checking emails during class as an innocuous activity that did not distract peers or professors and refreshed one's focus on the class.

The duration of use was an important consideration in determining acceptability, and most found text messaging to be inappropriate if a student was constantly on the phone.

The vast majority of students expressed their negative assessments of others' involvements with Facebook, gaming and movie watching during class.

Rarely did the students admit to using their computers for these purposes, and if they did, they saw their use as acceptable and justifiable because they were 'bored'.

Distraction

The implicit hierarchy of acceptability around types of technology use in the classroom was related to students' understandings of, and responses to, 'distraction'. For students, technology-based distractions can be either desirable or undesirable, depending on the contexts in which they occur. As noted previously, students welcomed and justified self-initiated, brief distractions that involved checking email, texting periodically or 'quick checking' on Facebook. Although students generally justified distraction if it was self-inflicted, sometimes they recognised that such distractions were detrimental to their learning. Nonetheless, for the most part, distraction as a self-initiated *personal* experience was evaluated positively, and students were invested in the idea that they should be allowed to do whatever they wanted as long as it did not negatively affect other people. They did not seem to recognise how *their own* use may, in fact, be distracting, and therefore negatively experienced by other students.

When distraction was initiated by other people, it was seen as a negative *interpersonal* experience. Many students discussed how their attention was drawn to

the lights, flashes and movements on other students' computer screens. For example, Kaylee explained that there was a girl who sat in front of her and every class she would get into a fight with her boyfriend on Facebook, and even though Kaylee didn't want to follow the fight, she felt she couldn't resist. Like Kaylee, students seemingly lacked agency in both self- and other-initiated distractions. For example, if they saw someone watching a movie in class they would 'just start watching' (Lisa). Some described being lulled into the distraction, admonishing themselves when they realised that they had allowed themselves to be distracted. Students' explanations of these distractions often evoked emotional responses of frustration: 'It's annoying to me because I can't help but look' (Vanessa).

Respect for professors

How students' technology use impacted the professor's experience in the class was understood by our student participants in terms of a lack of *respect*, as opposed to a *distraction* for the professor. Students acknowledged how irritating their use of technology must be for a professor; still they justified self-initiated distractions, and described their attempts to hide these from professors.

While they said that it was very important to show respect to professors through actively listening and engaging in lectures, students offered a number of justifications for their self-initiated use of technology. They maintained that often their use was unconscious, and the outcome of impulse, 'pure habit' (Justin), an 'automatic function' that was 'hard wired' into their 'nature' (Sylvia). Some indicated that the open access to the Internet was too tempting (Thomas), as was the perceived need to be constantly available. Some felt that a quick mental break would relieve their boredom or improve their concentration for the rest of the class. Others maintained that they had the ability to multitask, while some acknowledged that multitasking detracted from their learning. In conclusion, although there was general agreement among students that their technology use was necessary, they also saw it as disrespectful when they anticipated how the professor might feel.

Professors were seen as primarily responsible for engaging students, with little acknowledgement of the *student's role* in this process. As one student explained, 'all [the professor] does is talk from the slides so there's no point' (Lisa).

The view that professors hold primary responsibility for student engagement in learning was connected to participants' investments in the idea that they are paying the professor. As Kevin stated: 'they're our employees since we're paying their wages'. This widely shared view was related to students' main motivation for attending university; their world view was shaped by the influence of economic ideologies that emphasise the importance of money.

Motivation for attending university

Only a few students said that they attended university because they 'love learning' (Ryan) or because of the social aspects of being at university. Most said that their sole motivation was to get a university degree to have a career and make good money. Some students were unable to articulate specific reasons behind why they chose to attend university, and the sense that there was 'not much choice' was common. Many students discussed feeling pressured to further their education because of familial and societal expectations. The tone of the student responses was, in large

part, one of surrender to the inevitabilities of the job market and/or the expectations of others.

Analysis

Our data reveal complicated, and contradictory, subjectivities around the ways in which students accept and/or do not accept their use of personal technologies in the classroom. Typically, students' use of technology in class is seen by professors as acceptable when the use is directly connected to the business of the course (for example, using computers for word processing as a means of note-taking). Because of the access to technology for this purpose, students are also easily able to use it for purposes that are not welcomed by professors. Professors do not always articulate explicit codes of conduct around use of technology during class in their syllabi, and students' and professors' expectations in this regard are often ambiguous. Still, students sense that the norms of classroom etiquette and the professor's expectations do not support personal usage during classes. The result is that technology use is both normal *and* unacceptable, fostering tensions around its use, for students and professors. Our findings suggest that students' perceptions of their practices, and the reasons for what has frequently been characterised as their deviance in the classroom, are complex. To make sense of these complexities, and in keeping with grounded theorising, our analysis became focused on the broader contexts in which students' personal use of technology takes place.

Cultural lag

Students' repeated reference to the normalcy of their use of technology in 'today's society' signals the importance of considering the historical and cultural contexts of post-secondary teaching and learning. William Ogburn's concept of 'cultural lag' (1957) has pertinence for our analysis in that contemporary cultural practices outside the classroom that involve technology are at odds with teaching practices that persist in many university classrooms, despite institutional and individual attempts to 'get with the times'. As Don Tapscott argued: 'The Net Geners have grown up digital and they are living in the twenty-first century, but the education system in many places is lagging at least 100 years behind' (2009, p. 122). Even when faculty have also 'grown up digital', they have not been immersed in technology from as young an age as most of the undergraduate students that they are teaching. Regardless of the age of the professor, both the architectural structures of university classrooms, and the style of teaching shaped by these, have often not kept pace with changes in technology.

Information and communication technologies have also changed classroom spaces – no longer are students' experiences bounded by professors' orchestration of these spaces, rather student experiences are impacted by technologies that connect them to worlds outside the classroom. Still, teaching practices remain largely unchanged, regardless of whether or not technology is being used in classrooms. There are a number of ideological, interpersonal and institutional reasons for the persistence of age-old pedagogical approaches, and a thorough discussion of these falls outside the scope of this article. One example lies in the architectural structuring of the university classroom, a set-up that fosters a particular style of teaching. Classes often take place in lecture room-style teaching venues, with fixed furniture that

positions the professor at the front, secures students in tiered rows and cultivates a dissemination-of-knowledge style of teaching. Shor (1996) argued that this classroom design fosters feelings of inferiority and worthlessness in students and prohibits more collaborative, engaging styles of learning (as noted in Langan, Sheese, & Davidson, 2009). The incorporation of technological options in these classrooms is used, to varying degrees, by professors; still, the dissemination of information by the professor, to a passive student audience, remains for many the main mode of pedagogy. Compounding this situation is students' instantaneous access to information through technologies that arguably detract from the status of the university professor as the sole authority on a given subject. Our data suggest that when professors use technology in an attempt to 'get with' the digital revolution, they often move to supplementing their lectures with PowerPoint presentations. Students report that they find this approach less than engaging, and because the PowerPoints are often posted on the Internet, they believe that they do not need to attend class in person. Regardless of whether these PowerPoints do or do not sufficiently represent what is covered in class, students often have the impression that the online PowerPoints adequately reflect the lecture content. This assessment is, perhaps, to be expected from today's students who frequently rely on communicating through sound bites. For many students who do come to classes where they are expected to be passive recipients of knowledge, the outcome is boredom. Understanding 'cultural lag' provides a context for making sense of the classroom structure and the student culture that supports the use of personal technology during classes.

Complex power relations

Students' references to 'respect' reflect their appreciation of the formal, exalted status of the professor relative to their student status. Even though the professor is technically in a position of power within the classroom, our data reveal tensions in the power relations between students and professors. Students' use of technology extends their power by providing access to information and communication with others outside the classroom, and, as noted previously, this detracts from the status of the professor as the 'sage upon the stage'. The Internet allows students to cross-check, supplement and challenge what the professor is talking about at the click of a button. Students also complete end-of-term course evaluations that can affect a faculty member's career within the institution. Technological advancements make possible a number of more public means of evaluating faculty through online sites like RateMyProfessor.com and Facebook where the risk of public shaming for professors is high. Surveillance technologies are also in the hands of most students via audio and visual recording devices on cell phones and laptops, and these pose an ever-present threat to professors who are uncomfortable with such visibility. Course material can be easily disseminated online and potentially presented out of context, through sites like notesolutions.com. A professor's lecture performance can be streamed to YouTube for the world to see.

As such, technology increases the power that students wield, rendering complicated power relations between professors and students. Such complexities are evident, for example, when we consider the reports of a few of our participants who talked about complaining to the professor, allegedly to no avail, about others' misuse of technology in the classroom. As noted previously, our interviews with

professors suggest that such complaints are not always dealt with directly, and professors admit to addressing the class as a whole and using humour as a way to try and stop the misuse. Given these circumstances, it can be argued that in today's society, the professor's power within the classroom is diminished. Students increasingly demand respect, and exercise power, as paying customers in a university, where 'consumers … as opposed to … providers … define and determine quality in education' (Busnopower & Busnocratic Rationality section, ¶8, as noted in Servage, 2009, p. 34).

Neoliberalism and the corporatisation of the university

The power dynamics between professors and students are played out within the broader, contemporary contexts of neoliberalism and the related corporatisation of the university. Servage noted the 'profound, global-scale ideological shift toward neo-liberalism, that is, the liberalization of capitalism from the state and an accompanying valorization of individualism and economic self-sufficiency' (2009, p. 30). The university has undergone profound change as a result of neoliberalism, in addition to the changes that have resulted from innovations in technology. Hartman and Darab asserted that 'a particular mode of governance arising out of a neoliberal rationality' (2012, p. 49) lies behind the corporatisation of the university. One aspect of corporatisation is the university's focus on economic profit that commodifies education as a marketable product that, to be successful, must involve aggressive student recruitment and retention. As a result, universities create images through branding, and mount programmes to 'attain lucrative niche markets' (Mount & Belanger, 2004, p. 134). The result is a corporate culture aimed at producing 'compliant workers, depoliticized consumers, and passive citizens' (Giroux, 2001, p. 30, as noted in Hartman & Darab, 2012, p. 52).

Faculty's experience of their academic work is profoundly affected by the corporatisation of the university. As noted by Langan and Morton, 'the influence of private corporations on universities … has resulted in major changes to the ways in which academic work is organized and prioritized, the role of the professoriate, student access, and academic freedom' (2009, p. 396). In addition to the creation of a climate that emphasises the importance of meeting student expectations, the clear institutional priority for faculty is research over teaching, even though the university espouses rhetoric that, for promotional purposes, suggests that teaching is the priority. As Buchbinder and Newson noted: 'Professor/researchers became entrepreneurs in this market-oriented model, and research activities became the priority, while teaching activities became viewed as a less productive or less efficient use of time' (1999, p. 371, as noted in Langan & Morton, 2009, p. 396).

Notwithstanding the prioritising of research, institutional 'requests' routinely urge faculty to engage in professional development initiatives to enhance their use of technology as a methodology for a learner-centred environment (Owen & Demb, 2004, p. 662). Whether or not faculty direct their energies toward adapting their teaching to the challenges of today's digital students, there is a lack of meaningful institutional support for teaching innovations that attend to *both* the incorporation of technology and the incorporation of novel pedagogical practices that are grounded in learning theories. Most faculty are ill-prepared to take on these challenges – the learning curves are too high, and their time is too limited. For faculty who are working toward tenure, even though research productivity trumps teaching effectiveness,

they still cannot afford to risk having poor teaching evaluations by experimenting with pedagogical innovations that displease their student customers. Even faculty who have tenure do not want to risk poor teaching evaluations; often they too are looking for promotion, ultimately to 'Full' Professor. Measures of faculty productivity tend to not capture the invisible dimensions of incorporating teaching technologies, so these are typically not valued in considerations for tenure and promotion (e.g., see Owen & Demb, 2004, p. 663).

The entrepreneurial student

Neoliberalism, in concert with changes in technology, impacts not only university culture and the demands on faculty, but also the desires of students (Kirp, 2003, as noted in Mount & Belanger, 2004, p. 136). Under neoliberalism, the state 'seeks to create an individual who is an enterprising and competitive entrepreneur' (Olssen, 2002, p. 59, as noted in Servage, 2009, p. 30). In other words, neoliberalism operates not only as a set of economic practices but also as a set of distinct social values (p. 30). As our findings reveal, students' prime motivation for being at university is to ensure a career and good income for the future. Anyone who has attended a university fair to promote their university programme(s) can attest to the value that students and parents place on the employment opportunities afforded by a field of study. Students represent 'entrepreneurial neo-liberal subjects who come to understand "learning" primarily on the basis of its performative value … [which] emphasizes vocationalism in higher education' (Boshier, 2009; Edwards, 2008; Field, 2006, as noted in Servage, 2009, p. 27). When students are in classrooms to 'learn to earn' (Servage, 2009, p. 37), their orientation is arguably in conflict with the professors' orientation toward delivering a successful 'performance'. The dynamics within the classroom are inevitably affected because students become

> 'customers,' a term that … reduces the relationship between student and teacher to that of a business contract whereby money, in the form of tuition, is exchanged for an educational 'product,' in the form of a course credit or grade. (Servage, 2009, p. 36)

This consumer mind-set places the onus on the professor to make the classroom experience fulfilling, as reflected in our participants' comments. As such, neoliberalism, advances in technology and their concomitant effects disrupt 'the essence of universities as untrammeled intellectual havens' (Mount & Belanger, 2004, p. 136) where learning takes precedence over monetary and career aspirations.

Conclusion

Changes in technology have fundamentally disrupted the teaching-learning process and the student–faculty relationship in university classrooms (Owen & Demb, 2004, pp. 663–664). Our research attends to one aspect of 'the dislocations, tension, and surprises that accompany change' (p. 661) – students' use of personal technology in the classroom. As the lead researcher in this study, Dr Langan had experienced the impacts of these changes during her 15-year experience as a professor, and she has been privy to the ongoing commiserations of fellow faculty whose frustrations intensified as more technological options became available. It seems that no matter what faculty do to address 'the problem', it persists, and the tensions are palpable – it is the proverbial 'elephant in the room'. As our research project progressed, we

suspended our initial preconceived notions of the student as deviant, and focused instead on a qualitative investigation of how students perceive their use of personal technologies in the classroom, and how the broader contexts of the university classroom contribute to the *construction* of this digital generation of students *as deviant*. Our analysis demonstrates that students' perceptions of their use are complex and wrought with contradiction. They know they should be 'paying attention' but they are easily distracted by technologies that they see as integral to their existence. They are angry and frustrated for being distracted and feel hostile when people other than themselves cause distraction. They want to retain control over the use of their devices in class, but at the same time they want the professor to take control so that they do not have to deal with these issues. They know that their use of technology is unwelcome by professors, but they do it anyway. Although they empathise with professors, their competing assertion that they should be able to do what they want in the classroom reflects evolving power dynamics that challenge: the role of the professor; interactions between students and faculty; and the sanctity of the classroom. Notwithstanding these developments, our study shows that students still cling to notions of what a traditional university education should look like, even though they frequently complain about the way things are. These contradictions are complicated to say the least! Their internal struggles are explained in part by the disjuncture between the cultural expectations of the classroom environment and the cultural practices outside it. Students are behaving in ways that are in keeping with technological advancements, contemporary neoliberal ideologies and the corporatisation of the university. But their use of personal technology in the classroom is at odds with the structure of the university and the persistence of pedagogical ideologies and teaching practices that have not changed significantly during the last century.

Our purpose in this article is not to disparage the ways in which faculty are teaching. Further, we recognise that university campuses, classrooms, professors, and teaching and learning styles are diverse – a one-style-fits-all approach to this issue is erroneous. Our purpose is to draw attention to both micro- and macro-level reasons behind a particular tension in the university classroom, reasons that move beyond what is often the blaming of students. We believe that by understanding the complexities of students' perceptions and practices, and the contexts in which they operate, our research can inform future teaching and learning initiatives within the university. Then we can begin to meaningfully address students' use of personal technologies in the classroom, and possible changes that can be relevant to all involved.

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No potential conflict of interest was reported by the authors.

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